

Date: Thursday, 05/03/2009 10:13:13 AM
User: Linda Lacelle

Process Sheet

Customer : CC-DAR01 Dart Aerospace Ltd. Drawing Name : D412-776-011
Job Number : 46302
Estimate Number : 10804
P.O. Number : Part Number : D412776011
This Issue : 05/03/2009 S.O. No. : Drawing Number : REWORK -
Prsht Rev. : NC Project Number :
First Issue : / / Type : THERMOFORMING Drawing Revision :
Previous Run : 00015 Material :
Due Date : 06/03/2009 Qty: 2 Um: Each
Written By : U
Checked & Approved By : U
Comment :

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

PULL FROM STOCK:

2 X D412-776-011 B 41186

SCUFF LIGHTLY TO REMOVE EXISTING PAINT

ET 09-03-09

2.0

D412776011

Replacement Glareshield



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)
Replacement Glareshield

3.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

adhesion promoter m111071
primer sealer m111071
flat black m10997

RE-SPRAY USING GLASURIT 22-LINE
PAINT PER QSI 005 4.2.3.1

4T 07-03-07

4.0

QC14

INSPECT SPRAY PAINT



Comment: INSPECT SPRAY PAINT

0903.12 (2)

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
REPACKAGE USING NEW B/N
NEW LABELS REQ'D

CH6001

88 09/03/12 (X3)

W/O: 46302		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
09-03-05	1.1	QC to inspect scuff. Acceptable to paint over remaining paint that was not removed by scuffing.	CP	09.03.05	2	CP 09.03.05 DS1042	DS1042 09.03.09	
09-03-06	3.0	Paint as per attached email from Calgary i: CS1005 (Ref copy)	PH	09.03.06		PH 09.03.06 por DS1042	DS1042 09.03.12	

Part No: D412-776-011 PAR #: N/A Fault Category: Production ^{Purchasing Coordinator} NCR: Yes No DQA: 1 Date: 01/03/12
 Resolution: Documentation Review Disposition: re-work QA: N/C Closed: 1 Date: 01/03/12

NCR: 46302		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
090305 090306	1.1 3.0	The paint "Glasurit 22" that was used is not the correct mix. P.C. Purchasing error. not Not a CSO mix.		Scuff/sand smooth the entire surface removing the top most coat, and re-paint flat black per Eng/E-mail instructions.	PH 09.03.11			
				<u>use new mixed product.</u>				

NOTE: Date & initial all entries

Dart Aerospace Ltd

W/O: 46302		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
09-03-11	3.0	adhesion promotor <u>B 111071</u> Start time <u>2:00</u> Finish time <u>2:45</u> primer sealer <u>B 111071</u> Start time <u>2:45</u> Finish time <u>3:30</u> Glasurit 22 Flat Black paint <u>B 111113</u> Start time <u>3:30</u>	E E	09.03.12 09.03.12		E 09.03.12 E 09.03.12	E 09.03.12 E 09.03.12	

Add to
I.P.P.
Permanent
change.

Part No: D412-776-011 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 05/03/2009 10:13:13 AM
User: Linda Lacelle

Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: D412-776-011

Job Number: 46302

Part Number: D412776011

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



09/03/12 *[Signature]*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



u 09.03.12

Eagle Copters 2/25/2009

C2S SFA39.50 /CS0 Step: 1/1
 SFA39.50 Glasurit - 22 0.9 QUART Stock#: 0
 RO#: test only

M0	42.20
M26	255.20
M5	262.00
M6	263.90
M60	271.60
522-300	835.60

REFERENCE ONLY

Eagle Copters 2/25/2009

MIS 923-255 /STD Step: 1/1
 923-255 FLAT CLEA Glasurit - 55 0.9 QUART Stock#: 744245
 RO#: test only

923-255	308.80
522-322	524.90
929-93	790.00
352-91	836.20

w/o 46302

L Lacelle

From: Bill Beckett [bbeckett@dartaero.com]
Sent: March 5, 2009 8:29 AM
To: 'L Lacelle'
Cc: 'Sian Willems'; DTREPANIER@dartaero.com; 'Marc Bellavance'; 'David Shepherd'; 'Dan Stow'; 'Jason Murdoch'
Subject: RE: D412-776-011 GLARESHIELD

Linda,
 Please proceed with painting the 2 Glareshields currently in stock.
 Bill

From: L Lacelle [mailto:llacelle@dartaero.com]
Sent: March 5, 2009 7:12 AM
To: 'David Shepherd'; 'Dan Stow'; 'Jason Murdoch'
Cc: 'Sian Willems'; DTREPANIER@dartaero.com; 'Marc Bellavance'; 'Bill Beckett'
Subject: RE: D412-776-011 GLARESHIELD

I have everything here to paint, we can go ahead and paint without the clear...
 LL

Wb 46302

From: David Shepherd [mailto:dshepherd@dartaero.com]
Sent: March 5, 2009 1:21 AM
To: 'L Lacelle'; 'Dan Stow'; 'Jason Murdoch'
Cc: 'Sian Willems'; DTREPANIER@dartaero.com; 'Marc Bellavance'; 'Bill Beckett'
Subject: RE: D412-776-011 GLARESHIELD

There is nothing stopping us from painting the glareshields with the approved paint called up on the drawing. A couple of glareshields could be shipped to Calgary for painting if this expedites things. I am in the process of evaluating the clearcoat (Shane is preparing samples), but if it is acceptable, this is an added bonus, not a current requirement.

David

From: L Lacelle [mailto:llacelle@dartaero.com]
Sent: Wednesday, March 04, 2009 12:19 PM
To: 'Dan Stow'; 'Jason Murdoch'; 'David Shepherd'
Cc: 'Sian Willems'; DTREPANIER@dartaero.com; 'Heather Mahon'; 'Marc Bellavance'; 'Lucie Lamoureux'; 'Bill Beckett'
Subject: RE: D412-776-011 GLARESHIELD

I believe we're waiting on David to Ok the clear...
 LL

From: Dan Stow [mailto:dstow@dartaero.com]
Sent: March 4, 2009 2:26 PM
To: Jason Murdoch
Cc: 'Sian Willems'; 'L Lacelle'; DTREPANIER@dartaero.com; 'Heather Mahon'; 'Marc Bellavance'; 'Lucie Lamoureux'

05/03/2009

Subject: RE: D412-776-011 GLARESHIELD

Importance: High

Jason,

When will this issue be resolved?

Dan Stow

Technical Support

Dart Aerospace Ltd.

dstow@dartaero.com

Tel: 613.632.5200

Cell: 613.676.0992

From: Lucie Lamoureux [<mailto:lucie@darths.com>]

Sent: March 4, 2009 11:45 AM

To: Dan Stow; Marc Bellavance

Cc: Sian Willems; L Lacelle; DTREPANIER@dartaero.com; Heather Mahon

Subject: D412-776-011 GLARESHIELD

Hi everyone,

Need to quote a customer, any updates on the Glareshield?

Please advise,

Thanks

Lucie

Lucie Gaumond-Lamoureux

Sales Associate

DART Helicopter Services, LLC

Tel: 1.613.632.3336

Tol: 1.800.556.4166

Fax: 1.613.632.4443

Cell: 1.613.676.1720

lucie@darths.com

www.darthelicopterservices.com

"We provide solutions"

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05/03/2009

Wb 46302

risk.

Any views expressed in this message are those of the individual sender, except where the sender specifically states them to be the views of DART Helicopter Services.

No virus found in this incoming message.

Checked by AVG - www.avg.com

Version: 8.0.237 / Virus Database: 270.11.7/1982 - Release Date: 03/04/09 07:41:00

No virus found in this incoming message.

Checked by AVG.

Version: 7.5.557 / Virus Database: 270.11.7/1983 - Release Date: 3/4/2009 7:41 AM

No virus found in this outgoing message.

Checked by AVG.

Version: 7.5.557 / Virus Database: 270.11.7/1983 - Release Date: 3/4/2009 7:41 AM

Wb 46302

L Lacelle

From: Harvey Siemens [hsiemens@dartaero.com]
Sent: February 26, 2009 4:27 PM
To: Peter Hum; 'L Lacelle'
Cc: Bill Beckett; Susanne Sheldon; 'David Shepherd'
Subject: Paint codes

Peter

Shane worked out a formula for flat paint without the flat clear coat over top. The units on this recipe (and the others that I sent you) are grams to make the noted quantity. % works as well.

The new SFA39.50 (Special) recipe is:

Glasurit – 22

M0	38.70	2.1%
M26	233.90	12.7%
M5	240.20	13.1%
M6	241.90	13.2%
M60	249.00	13.5%
522-300	834.70	45.4%

It would be easier to use this formula because it would not require 2 coats in the paint booth.

Regards,

Harvey Siemens

Mechanical Designer
DART Aerospace Ltd.

P: 403-717-0328
F: 403-717-1288
E: hsiemens@dartaero.com
W: www.dartaero.com

M: 1060 McTavish Road NE, Calgary, Alberta, T2E 5G9

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DART

Finishing

Procedure Issue Date: 07.04.02

Issue No: 10

4.2.3 Paint – Lexan and Kydex Parts**4.2.3.1** The following products are acceptable per MIL-PRF-85285:

Surface Preparation:

- BASF Glasurit plastic cleaner 541-30
- BASF Glasurit water based cleaner 700-1

Adhesion Promoter:

- BASF Glasurit 1K plastic adhesion primer 934-0
- BASF AM865 adhesion promoter (preferred)

Sealant:

- BASF transparent filler 285-60

Topcoat:

- BASF Glasurit 22-Line, Code: 221250 urethane acrylic jet black SFA39.50 paint

Elastifier Additive:

- BASF 522-111

*Wb 46302***4.2.3.2** Surface Preparation:

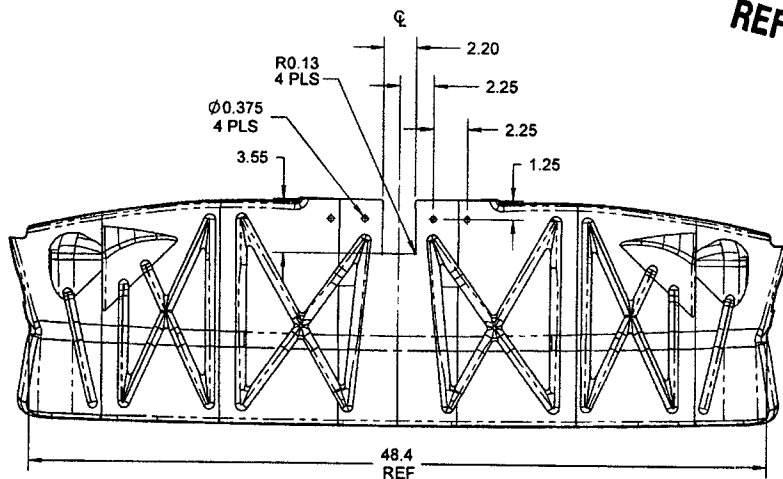
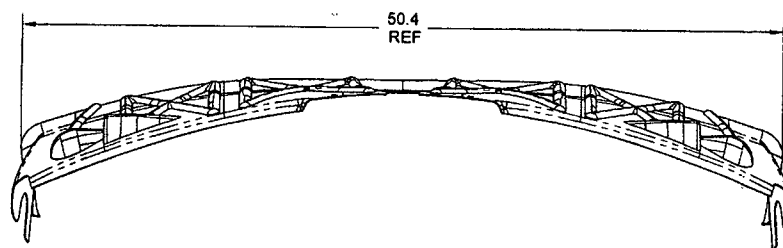
- The surface must first be cleaned using BASF Glasurit 541-30. Evenly wash all surfaces and corners using a clean soft lint free rag, followed by a dry clean soft lint free rag.
- Ensure the part surface is no longer slick to the touch. If the surface is still slick, repeat.
- Evenly dry sand the painted surface using a 400 to 600 grit dry paper or a maroon 3M scotchbrite pad. Ensure all corners and edges are scuffed for proper adhesion, until gloss finish has been removed, and there are no burrs on the surface or edges caused by sanding.
- Blow off any dust or sanding particles.
- Clean the painted surface using BASF Glasurit 541-30 as noted above.
- Ensure the part surface is free of dust or lint, by passing a good quality BASF anti-static tack rag # B120 lightly across the surface.

4.2.3.3 Adhesion Promoter:

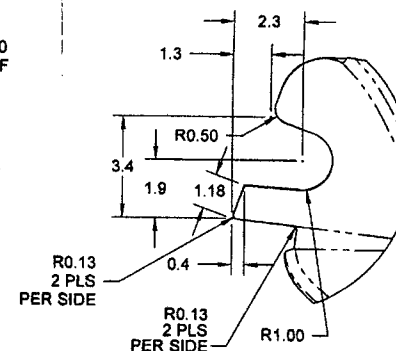
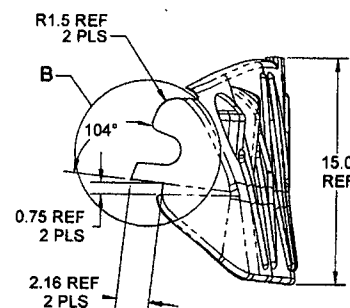
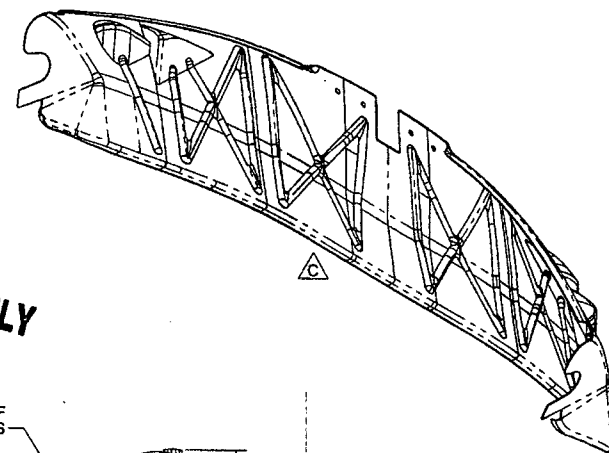
- Prepare the adhesion promoter as per manufacturer's instructions.
- Apply one even coat over the entire part and allow a flash time of approximately 15 to 20 minutes.
- Apply sealer per section 4.2.3.4

4.2.3.4 Sealing:

- Prepare the transparent filler sealer as per manufacturer's instructions.
- A wet on wet transparent filler sealer may be applied on the adhesion promoter.
- Apply one coat evenly over the surface being painted. Allow approximately 15 to 20 minute flash time before top coating.



REFERENCE ONLY



D3690-1 GLARESHIELD

NOTES:





- 1) MATERIAL: F6006 SUEDE/POLISHED 701 BLACK FLAT LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 2) TOOLING: THERMOFORM PER MOLD DT9010 PER QSI 022
TRIM PER MOLD SCRIBE LINES EXCEPT WHERE NOTED
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 2.5 lbs
- 9) MINIMUM THICKNESS AFTER FORMING IS 0.040

4646302

RELEASED
08.09.02

DETAIL B
SCALE 2X

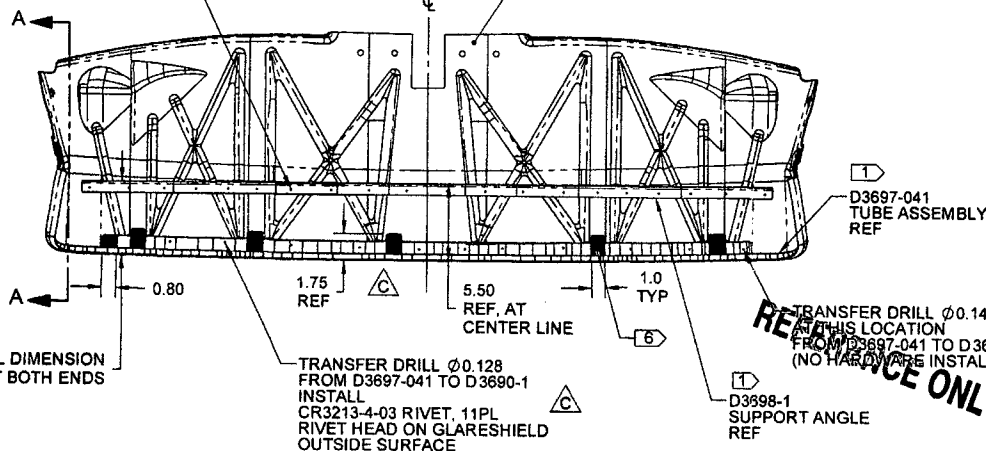
THIS VIEW FOR REFERENCE ONLY

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3690	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		GLARESHIELD ASSEMBLY	NTS
DATE	08.09.02	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

△ C TRANSFER DRILL Ø0.128
FROM D3698-1 TO D3690-1
INSTALL
CR3213-4-03 RIVET, 20 PL
RIVET HEAD ON GLARESHIELD
OUTSIDE SURFACE

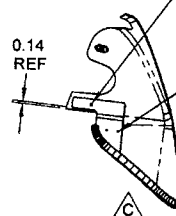
D3690-1
GLARESHIELD
REF



TRANSFER DRILL Ø0.098
FROM D3697-041 TO D3690-1
INSTALL
MS20426AD3-5 RIVET
AN960JD3 WASHER (ON GLARESHIELD
OUTSIDE SURFACE)
1 PER SIDE

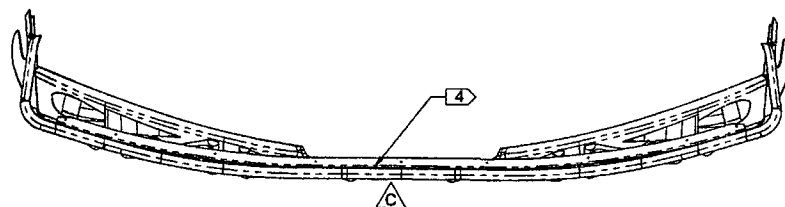
TRANSFER DRILL Ø0.128
FROM D3697-041 TO D3690-1
INSTALL
CR3213-4-03 RIVET 2
BOTH ENDS

0.14
REF



SECTION A-A

REFERENCE ONLY



D3690-041 GLARESHIELD ASSEMBLY

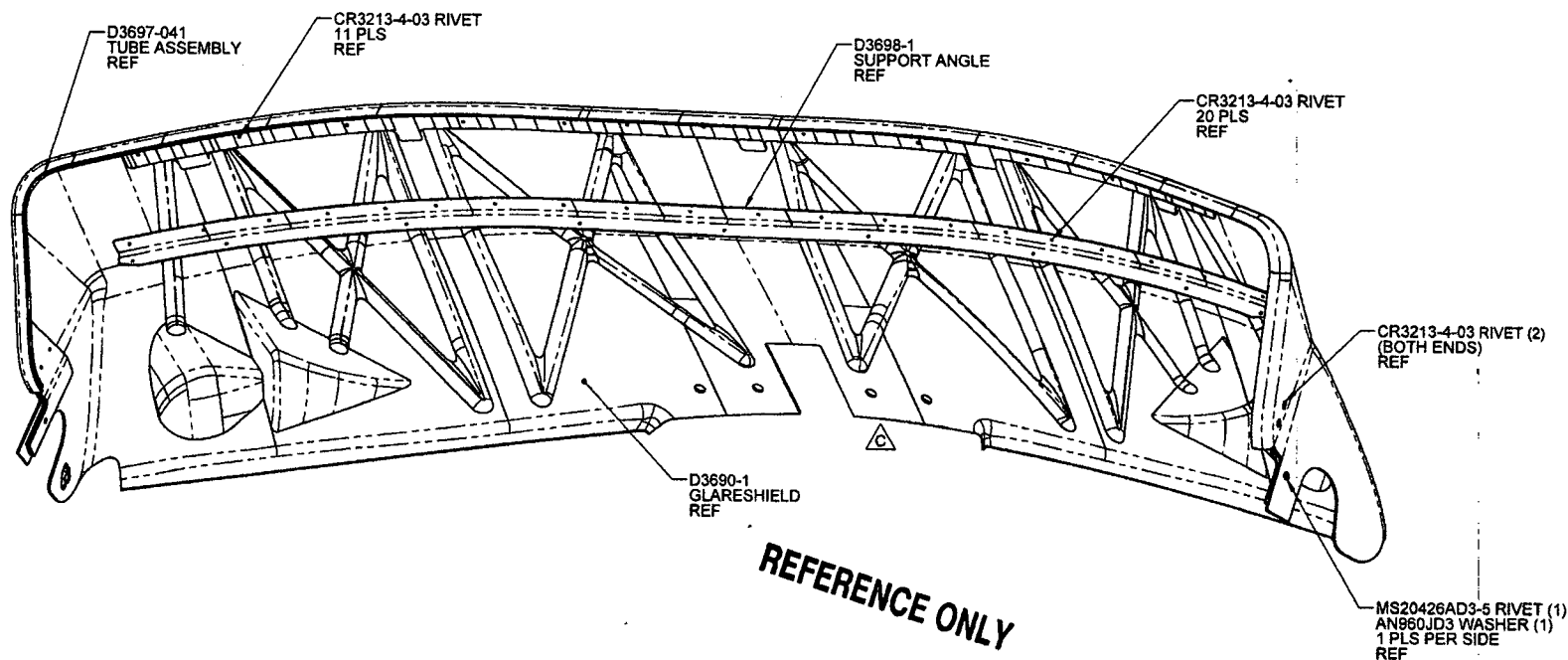
NOTES:

- 1) CENTER D3697-041 AND D3698-1 ON TO D3690-1
- 2) FINISH: PAINT D3690-041 ASSY FLAT BLACK USING BASF GLASURIT 22 LINE CODE SFA39.50 PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) IDENTIFICATION: ETCH WITH DART P/N D3690-041 & B/N ON INSIDE OF PART
- 5) WEIGHT: 2.98 lbs
- 6) MASK HATCHED AREAS (6 PLS) ON INSIDE OF THE PART PRIOR TO PAINTING

RELEASED
08-09-02

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3690	SHEET 2 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GLARESHIELD ASSEMBLY	NTS
DATE	08.09.02	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1



PART LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3690-041	GLARESHIELD ASSEMBLY
1	D3690-1	GLARESHIELD
1	D3697-041	TUBE ASSEMBLY
1	D3698-1	SUPPORT ANGLE
2	AN960JD3	WASHER (OR NAS1149DN332J)
2	MS20426AD3-5	RIVET
35	CR3213-4-03	RIVET

D3690-041 GLARESHIELD ASSEMBLY

C	SHEET 1 PL MS20426AD3-5 RIVET WAS MS20426AD3-4 CR3213-4-03 RIVET WAS MS20470AD3-4 WASHER QTY WAS 6 (VIEWS UPDATED ACCORDINGLY). RIVETS ON SHEET 1 CHANGED TO REF QTY. RIVETS ON SHEET 2 CHANGED TO "HARD" CALLOUTS. SHADING REMOVED FROM ALL VIEWS FOR CLARITY.	AJS	08.09.02
B	ADD FINISH COAT & 1.0 TYP. SHEET 2 ZONES A, B & C, 5; ADD MIN THICKNESS. SHEET 3 ZONE A, B	RF	08.08.24
A	NEW ISSUE	RF	08.05.26
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO. D3690	REV. C SHEET 1 OF 3
CHECKED		TITLE GLARESHIELD ASSEMBLY	SCALE NTS
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APPROVED		DATE 08.09.02	
DE APPR.			

RELEASED
28-09-16-18

Ulb 46302

L Lacelle

From: David Shepherd [dshepherd@dartaero.com]
Sent: March 5, 2009 4:39 PM
To: 'Peter Hum'
Cc: 'L Lacelle'
Subject: FW: Raw Plastic Prep

For the QSI ... we NEED to use 20 % reducer since this is what we did on the testing.

David

From: Shane Wikene [mailto:paintshop@eaglecopters.com]
Sent: Thursday, March 05, 2009 11:36 AM
To: 'L Lacelle'
Cc: dshepherd@dartaero.com
Subject: RE: Raw Plastic Prep

Wb 46302

Linda,

Just a heads up on mixing the paint, the reducer percentage will affect the gloss levels as well as the amount of paint put on the dash, so a 10% ratio will be less coat of application but the gloss level will be higher, if 20% reducer is added the amount of coats will increase but the gloss level will lower.....

Shane Wikene

*Eagle Copters
Calgary AB
Refinishing Shop Manager
403-250-7370 Ext 130*

From: L Lacelle [mailto:llacelle@dartaero.com]
Sent: Thursday, March 05, 2009 11:34 AM
To: 'Shane Wikene'
Cc: dshepherd@dartaero.com
Subject: RE: Raw Plastic Prep

THANKS

From: Shane Wikene [mailto:paintshop@eaglecopters.com]
Sent: March 5, 2009 1:21 PM
To: llacelle@dartaero.com
Cc: dshepherd@dartaero.com
Subject: Raw Plastic Prep

Raw plastic preperation:

Using a red scotch brite pad scuff the entire panel
Then using part # 541-30 plastic cleaner and a lint free towel, wipe the entire part to be painted clean.
After the panel has been cleaned you will spray 2 med/ wet coats of part # AM865 plastic adhesion promoter

06/03/2009

Allow the adhesion promoter to flash off for 20 mins

Now you will have to apply a plastic primer/sealer, part # 285-60, mixed with 929-53 and 352-50 reducer at a ratio of
2 parts primer/sealer, 1 part 929-53, 30% 352-50 reducer

Allow primer/sealer 20 mins to flash before topcoating

Your flat black will require 3 coats for complete coverage.

Black paint will be mixed at 3 parts paint 1 part 929-91 hardener ~~10%~~ 352-50 reducer

20%

PH
09.03.06

If you have any more questions feel free to contact me

Shane Wikene

Eagle Copters

Calgary AB

Refinishing Shop Manager

403-250-7370 Ext 130

U6 46302

No virus found in this incoming message.

Checked by AVG.

Version: 7.5.557 / Virus Database: 270.11.8/1985 - Release Date: 3/5/2009 7:54 AM

No virus found in this outgoing message.

Checked by AVG.

Version: 7.5.557 / Virus Database: 270.11.8/1985 - Release Date: 3/5/2009 7:54 AM

Date: Thursday, 05/03/2009 10:13:13 AM
 User: Linda Lacelle

Process Sheet

10

Customer	: CC-DAR01 Dart Aerospace Ltd.	Drawing Name	: D412-776-011
Job Number	: 46302		
Estimate Number	: 10804		
P.O. Number	:	Part Number	: D412776011
This Issue	: 05/03/2009 S.O. No. :	Drawing Number	: REWORK
Prsht Rev.	: NC	Project Number	:
First Issue	: / / Type : THERMOFORMING	Drawing Revision	:
Previous Run	: 00015	Material	:
Written By	:	Due Date	: 06/03/2009 Qty: 2 Um: Each
Checked & Approved By	:		
Comment	:		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

PULL FROM STOCK:

2 X D412-776-011 B 41186

SCUFF LIGHTLY TO REMOVE EXISTING PAINT

2.0	D412776011	Replacement Glareshield
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)
 Replacement Glareshield

3.0	SPRAY PAINTING	SPRAY PAINTING
-----	----------------	----------------



Comment: SPRAY PAINTING

RE-SPRAY USING GLASURIT 22-LINE
 PAINT PER QSI 005 4.2.3.1

4.0	QC14	INSPECT SPRAY PAINT
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Comment: INSPECT SPRAY PAINT

5.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

REPACKAGE USING NEW B/N
 NEW LABELS REQ'D